

THE SKY WANDERER

BY C. F. MERRILL.

There is a tourist now on his way to Honolulu and after he arrives we shall have the pleasure of his company for a few weeks.

It may also be stated that the local promotion committee, although intensely interested in the business of attracting visitors to our beautiful islands had not the slightest weight or influence in the bringing here of this famed tourist.

He is expected to arrive about the end of this month, and when the fire whistle blows its three blasts, notifying us that he is in sight he will be somewhere in the neighborhood of 34,400,000 miles off Diamond Head.

Nevertheless at that distance away he will soon be "close up," for he is rushing toward us at the rate of 1,192,000 miles a day. And still, with all this onrush to get here, our attractive features, which chain other tourists to our shores will have not the least effect on this visitor and the promotion committee may not put forth an effort to entertain him, for he will, with a swish of his fiery tail, the slight effects of which we shall feel, give us the "go by." But then again, will this onrushing comet, with a tail of fire streaming out behind over a million miles, give us the "go by?" There are some astronomers who predict that earth and comet will meet, but they are in the minority, thank goodness. Other astronomers scout the idea. Although they admit that Halley's comet will cross the earth's orbit, we shall not have arrived at that crossing point till some time after the sky traveler has passed, but at the same time we shall not be so far away and shall keep right on in the old rut regardless of the fact that that rut will take us directly through the lower limit of the far away part of the comet's tail.

There is no telling what would happen if the earth was to pass directly through the thick part of the tail as it goes without reasoning that in the immediate vicinity of the comet its tail is composed of gases, the nature of which would probably suffice to death every living thing on earth.

That state of affairs would be unpleasant enough but let's go a trifle beyond this and give the calamitist astronomer a chance. According to astronomical measurement and statistics Halley's comet is of a density similar to this earth and in size would compare on about the same lines as a small plum to a fairly sized orange the earth represented by the orange. Thus it is seen that this heavenly visitor is no slouch.

An undisputed fact of physics is that when two bodies meet the smaller must give way to the larger. That's all right, too, but when we call to mind the fact that the body that may hit us is a smash is larger than the planet Mercury and is travelling through space at a rate of speed 87 times faster than the velocity of a cannon ball when leaving the mouth of a 14-inch cannon, it is enough to give one the Willies-Willies.

Some sky searchers say it will hit the earth, others say it will not; it cannot in fact according to its lines, deviation and orbit. It is a fact, however, that at the time of this comet's previous visit many people were stricken with fear, thinking that the collision was sure to take place, but it did not. It may be different this trip, and we may get knocked into a peevy-weezy popinjay. Still I would not advise anyone here to sell their sugar stock or stop boosting for Honolulu on the strength of this possible meet.

To make all things connected with the comet a little clearer the writer has made a crude figure presented herewith which includes a number of planets best known in our solar system.

The orbits of these several planets

are egg shaped in their proper line of travel through the heavens, but to simplify matters they are drawn on a perfect radius.

The sun occupying the center is the objective point of Halley's comet toward which it is rushing at a speed almost beyond the human mind to conceive. But a strange thing happens as the comet is about to make a goal, as it were.

As the comet, on its dash toward the sun, gets well within the orbit of Mercury the governing force undergoes a change, turning into a repelling force, which causes the traveler to pass around the sun and is again sent on its way through space.

On the diagram the nearest planet to the sun is Mercury with a diameter of but 3200 miles. He is but 37 mil-

to make the lap. She also turns on her axis in the same time but always turns the same side to us.

Mars is the next planet in distance beyond the earth's orbit, and of which we are hearing so much through astronomers who are trying to ascertain if she is inhabited. It has been established beyond doubt that Mars is many thousands of years older than the earth, and if such is a fact and that planet is inhabited the beings must be far ahead of us in intelligence, science, engineering, political economy and a thousand and one sciences of which we have never heard. It is a fact, however that certain lines appear across the face of Mars. These lines, according to measurements, are from 500 to 2000 miles long and average 3 and 4

hours and 56 minutes. As stated before, the earth is only 7912 miles in diameter and takes nearly 24 hours to turn on its axis, this compared with the diameter of Jupiter and the time he takes in turning over once is certainly a contrast of speed.

Jupiter has four moons or satellites. Although Jupiter is easily picked out by his peculiar magnitude and light, these four moons are invisible to the naked eye, but present a most beautiful appearance when viewed through a powerful glass. Another feature connected with Jupiter, as seen through the telescope, is what appears to be a belt about his equator, supposed to be caused by the swiftness of his diurnal motion, in drawing his clouds and vapors into that form.

The most remote planet of which we have any authentic knowledge is Saturn. His pale feeble light is hardly of any use either to astronomers or navigators. His diameter is 79,042 miles and his distance from the sun is 800,000,000 miles. Saturn's orbit is about the outer edge of our solar system and he takes up 29 years and 167 days to get back to his starting point. Like Jupiter, he gets speedy when it comes to turning on his axis, doing the trick in 10 hours and 16 minutes.

This planet is different from all the others when viewed through a powerful telescope. Besides being attended by 7 moons there is a double luminous ring about the planet. The composition of these rings has been a problem among astronomers for many years. The popular belief is that when Saturn was started revolving, being of a chaos nature, he threw off the matter which compose the rings and his attraction and speedy diurnal motion keeps the rings in place.

None of these planets are in the path of the comet except the earth, Mercury and Saturn. Mercury will steer clear of any possible trouble as he is under the protecting wing of the sun. Saturn is of such magnitude that such a small matter of stopping a comet about a quarter the size of the earth would cause him no concern whatever. Regarding the earth's non-say pillika remains to be seen.

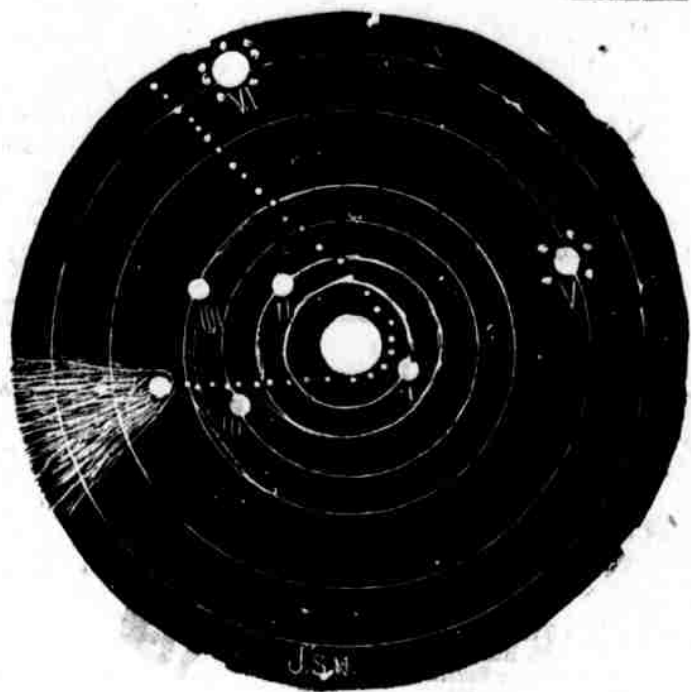
The uninitiated, when looking at the heavens on a bright night might be tempted to exclaim, "Surely, the comet cannot get through that mass of stars without hitting some of them!"

Don't let that worry you, savage reader. Those bright twinklers are far beyond the limits of our solar system and little or nothing is known of them. They have been classified in groups for convenience sake in mapping the heavens, but beyond that little is known.

It is reported that Halley's comet is here now, and it may be so, although the writer has not yet seen it. The fact that the comet has returned to the vicinity of the earth a year ahead of the time figured out for its appearance by the astronomers, may get along down this way a little ahead of the appointed hour. It is certainly in sight with a strong glass at the present time, but we would advise those who do not own a powerful telescope not to strain their eyes out or despair of seeing the fiery-tailed visitor. Along about the end of February he will be the attractive feature in the heavens, just to the north of Diamond Head to one standing at Fort and King streets and about 67 degrees above the horizon, and so close you will almost hear him hum.

On the diagram is the relative position of the comet to the earth and the dotted line shows its passage around the sun and on again on its 68,900,000 miles orbit which will bring it back here again in about 75 years.

"Womanly self-sacrifice" is an essentially manly weakness.



I. MERCURY.
II. VENUS.
III. EARTH.

IV. MARS.
V. JUPITER.
VI. SATURN.

lion miles from the sun and performs his revolution in his orbit in 87 days and 23 hours. This planet is seldom seen even with a powerful glass for the reason that he is so near the sun. How close he will be to the path of the comet is not told by astronomers.

The next planet from the sun out is Venus, the brightest of all the planets. Her diameter is 7687 miles, nearly the equal of the earth in size. Venus' distance from the sun is 69 millions of miles and she travels around her orbit in 224 days and 17 hours. A peculiar condition in connection with Venus which is not found in any of the other planets is the fact that when viewed through a telescope she sometimes appears to be horned like our moon.

The earth is the next planet in distance from the sun. It is almost superfluous to state that the diameter of our own planet is 7912 miles. Ninety-three millions of miles separate us from the sun and with the number of beautiful calendars being distributed throughout the city it is an easy matter to figure out that we chase ourselves around our orbit in a few seconds less than 365 days and 6 hours, and turn on our axis in 23 hours and 56 minutes.

The earth is attended by a satellite called the moon, with which we are all familiar to a certain extent. The moon is no slouch in size, being 2161 miles in diameter. The attractive and repelling forces characteristic of these two bodies keep them about 240,000 miles apart. Although the moon accompanies the earth along its orbit she has an orbit of her own in which it takes her 27 days and eight hours

miles in width. They are as straight as can be made with survey instruments. These lines intersect each other many times and appear to run in all directions regardless of the points of the compass.

What these lines are no one has yet discovered with a certainty. The general opinion of astronomers is that they are canals of water. From conditions on Mars it is discovered that water is already receding or, more plainly speaking, evaporating from this neighbor of ours. The Martians are great believers of conservation of natural resources and as water seems to be the only resource of that planet it has become the medium of exchange, taking the place of money. It is stated that these canals of water represent the fortunes of the rich; that the laborer is paid for his work in water. Instead of money. However that may be it is not worrying us any at present regardless of the condition of the Noman dam.

Mars may easily be distinguished from the other planets by his decidedly red appearance which is supposed to be caused by his dense atmosphere. Jupiter is the next and largest of all the planets in our solar system. While it is true that there are several planets circulating in erratic orbits between Mars and Jupiter they are of such small magnitude as to be worthy of no mention or even name in this article.

Jupiter is 494,000,000 miles from the sun and is 83,170 miles in diameter. It takes him almost 12 years to make the round trip of his orbit, but for axis turning he certainly gets a move on, as he turns completely around in

EXHIBIT SHOWS GRAFTING METHODS

ARTIFICIAL MEANS PLAINLY ILLUSTRATED

Federal Experiment Station Force Had Interesting Exhibit at the Poultry Show Held in Armory. Sessions Instructive.

The Federal Experiment Station has a very interesting and instructive exhibit in the N. G. H. armory, where the fifth annual poultry show is being held. It is a demonstrating booth where the art of budding, inarching, and grafting may be witnessed by a competent staff sent down from the Federal Experimental Station by Supt. Wilcox.

Mangoes, alligator pears and the citrus family do not come true from seed, on account of cross pollination; consequently fruit-growers must adopt artificial means for perpetuating the strain which has some marked characteristics causing it to be known as a variety. Some of these methods are: budding and grafting.

Grafting by the method of approach or inarching, has been known for some time in Hawaii. It is customary to take a seedling two or three years old and cut it along the side, severing some 6 inches of the bark down as far as the growing layer of cells, which are next to the wood. The variety to be perpetuated is prepared in the same way. These two are then brought in contact and securely wrapped with paraffin cloth to exclude the air, thus preventing drying out.

In from six weeks to two months time the growing layers of cells of the stock and the seedling will have united. The stock is then severed and the top of the seedling is removed. The two exposed ends being waxed to prevent decay and drying out. This leaves the desired branch of the stock securely united with the seedling. This can either be planted or used in the same way to produce other inarch plants. Care should be taken to leave several buds below the inarch from which new shoots will develop.

The Federal Experiment Station displays an interesting section through an inarch, showing the union of the stock and seedling throughout several well defined areas. In time the inarch will be just as strong as if it was a natural growth instead of an artificial method.

A chart exhibited gives one a very lucid idea of how the several different methods of inarching may be employed. To remove a graft of a choice variety from a potted seedling; to graft a choice variety on an established system and to give a new root system to a stunted tree by planting a seed near the base by inarching the seedling.

Can Bud Mango.
The mango may be budded by making a vertical incision about 6 inches in length through the bark. A curved incision should also be made at the bottom of the vertical incision to insure the bark not cracking when the operator begins to gently turn the bark away from the wood. A bud is then cut from the desired variety, by taking about 3 inches of bark below and above the bud. The under surface of this bud and the attached bark and wood should not be handled as the growing tissues are very sensitive. This bud is then inserted between the separated bark and the wood.

The bud is then fastened in place by wrapping the entire incision with the exception of a small area just over the bud. A second strip of paraffin cloth is then suspended from the top and hangs down over the bud like an apron. This keeps off the direct rays of the sun and prevents the wind from drying out the exposed tissue. In about one month the wrapping is removed and shortly afterwards a shoot, which was in a dormant condition, just above the old leaf stock, makes its appearance. When this shoot has developed to about 6 inches in length, the original top is gradually removed thus throwing the sap into the shoot. Shortly afterwards the whole top is removed leaving the growing shoot to form the new top of the tree.

Several sections are on exhibition in which one can readily see how closely the bud unites with the stock. In time this will be just as strong as if the bud had always been there.

Good Fruit Assured.
Citrus budding is shown in the same way. The incision in this case being only about one and a half inches in length. The Federal Experimental Station has on exhibition a budded lemon plant which shows the enormous development attained in eight and a half months.

By budding a person is absolutely certain of good fruit, providing the proper bud wood has been selected. He will also be able to produce fruit in a shorter time than he could have if he had not employed budding.

In addition the Federal Experimental Station is exhibiting a number of interesting hibiscus crosses grown by Valentine Holt, C. Montague Cooke, A. Gantley and G. P. Wilder.

Where both or either parents could be found in flower, they have been secured and are so arranged that one can readily see the resemblance in the progeny. Many striking results

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The New York Institute of Science, of Rochester, N. Y., has just published a remarkable book on hypnotism, personal magnetism and magnetic healing. It is by far the most wonderful and comprehensive treatise of the kind ever printed. The directors have decided, for a limited time, to give a free copy to each person sincerely interested in these wonderful sciences. It is the result of the combined effort of twenty of the most famous hypnotic specialists in the world. You can now learn the secrets of hypnotism and personal magnetism at your own home, free.



Hypnotism strengthens your memory and develops a will of iron. It overcomes bashfulness, revives hope, stimulates ambition and determination to succeed, and gives you that self-confidence which enables you to convince people of your real worth. It gives you the key to the inner secrets of mind control. It enables you to absolutely control the thoughts and actions of whomsoever you will. When you understand this grand and mysterious science you can plant suggestions in human minds which will be carried out in a day or even a year hence. You can cure bad habits and diseases in yourself or others.

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The New York Institute guarantees to teach you the secret of attaining these things. It is the largest and most successful school of hypnotism in the world. It is chartered by the State laws, and carries out every promise faithfully. If you want a copy of its free book, just send your name and address on a postal card—no money—to the New York Institute of Science, Dept. 204 G. Rochester, N. Y., U. S. A. and you will receive it by return mail, post paid.

are shown. One notable specimen is exhibited where a coral hibiscus has been used as the male parent and has produced both single and double progeny having the petals of the female and the stamens and stigma of the male.

A number of the lesser known hibiscus, such as H. arotians; H. young-amans; H. brackenridgii, are shown. The act of pollination is performed by removing the anthers, before they have ripened, from the flower desired as the female. Pollen is then taken from the flower desired as the male parent and dusted on the stigma of the female. The pollinated flower is then protected from further cross pollination. When the seeds have ripened numerous varieties are found.

"My idea of getting rid of the hookworm and the pellagra germ," remarked the man on the car this morning, "would be to tie their tails together and hang them over a clothesline."—Toledo Blade.

American lawyers are horrified at the French judicial system under which the judge tortures prisoners. In this country the lawyers torture prisoners.—Richmond News Leader.

Vapo-Cresolene
(Established 1879)
FOR WHOOPING COUGH, CROUP, ASTHMA, COUGHS, BRONCHITIS, SORE THROAT, CATARRH, DIPHTHERIA
Vapo-Cresolene stops the paroxysms of Whooping Cough, Croup, Asthma, and all other respiratory troubles. It acts directly on the inflamed membrane of the throat and lungs, and soothes the inflamed surface. It is a boon to sufferers from Asthma.
Cresolene is a powerful germicide, acting both as a restorative and preventive in contagious diseases. Cresolene's best recommendation is its thirty years of successful use.
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Send Postal for Description Booklet
Cresolene, Antiseptic Throat Tablets, simple and soothing for the inflamed throat. 10c.
The Vapo-Cresolene Co., 150 Fulton Street, New York City.

AMUSEMENTS. FIFTH ANNUAL Poultry Show

BY THE HAWAIIAN POULTRY ASSOCIATION

With Educational Exhibits by the Hawaii Experiment Station and the Bureau of Agriculture and Forestry, Etc.

IN THE NATIONAL GUARD SHOOTING GALLERY

Jan-12, 13, 14 & 15 DAY AND EVENING

Admission 25 Cents
Children under 12 years... 10 Cents
Season tickets..... \$1.00

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"THE SUNSHINE PREACHER"

More widely known as "Dinah the Preacher," will present her own Interpretative Dramatization of

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TUESDAY, JANUARY 18, 8:15

Part of proceeds to Central Committee, Anti-Tuberculosis Fund.

TICKETS on Sale at Bergstrom Music Store.

PRICES, \$1, 75c., 50c. Balcony Tickets to Students, special rates, 50c.

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FOR CHILDREN. The girl holding the lucky number gets a doll, and the boy a knife.

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Good Music by Kawaihau Glee Club.
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Admission 10c. Ladies Free.

DEATH-DEALING STORM THROUGHOUT EAST

NEW YORK, Jan. 14.—This city is in the grip of the worst storm of the winter. During the past twenty-four hours twelve inches of snow fell. Many persons have been frozen to death, and suffering, especially among the poor people, is intense.

Mayor Gaynor, while on his way home with a friend, became blinded by the driving snow and lost his way. Both the Mayor's ears were frozen, while his companion was blown from a trestle and sustained a broken leg and other injuries which, it is feared, may prove fatal.

PHILADELPHIA, Jan. 14.—This city is burned under sixteen inches of snow. Traffic is badly crippled, and in the poor districts the people are suffering intense hardships.

CHICAGO, Jan. 14.—Enormous damage has been done in the Mississippi and Ohio valleys by the intense cold and heavy fall of snow. Hundreds of cattle are dying on the western plains, and railroad traffic is demoralized in many States.

RESOLUTION NEAR LOST

WASHINGTON, D. C., Jan. 14.—Only the sudden adjournment of the House today prevented the defeat of the resolution proposing a constitutional amendment to change the date of the Presidential inauguration. Congressman Parsons of New York led a strong fight against the proposed change of date.

GRAFT SCANDAL RENEWED

PITTSBURG, Jan. 14.—President Jennings and Vice-President Griffen of the Columbia National Bank, together with two others, were today indicted by the Grand Jury for conspiracy. The indictments are the outgrowth of the graft scandals of 1908.

LONDON'S ELECTION DAY

LONDON, Jan. 14.—A campaign of unparalleled intensity closed here tonight. The elections will be held tomorrow. Excitement is intense.

DR. SEXTON TO HEAD BUREAU

Board of Health Takes Decided Step Toward Anti-Tuberculosis Campaign—Mosquito War Money.

At its meeting held yesterday afternoon, the Board of Health carried out the ideas already expressed by President Mott-Smith toward the establishment of a definite anti-tuberculosis campaign.

A resolution was adopted providing for the establishment of a tuberculosis bureau, and on the motion of J. F. Morgan, Dr. Sexton was named to take charge of the work, with his salary fixed at \$250 a month. Dr. Sexton will make a beginning in his new work as soon as he returns from San Francisco, where he has to go for several weeks on business.

The only discussion that accompanied the passage of the resolution was the question of whether the head of the new bureau should be an expert or a physician with a full knowledge of the disease and to act chiefly as an executive. It was stated that an expert would require at least a monthly salary of \$500—

which the board considered impossible to pay at the present time.

President Mott-Smith announced the appointment of Dr. Wayson as physician in charge of the Kalia hospital, with his salary fixed at \$250 a month. As there is doubt as to whether Dr. Wayson can act as a member of the Board of Health and at the same time be a salaried employee of the department, he did not vote on any of the propositions that came up yesterday, and his status as a member of the Board of Health has been referred to the Attorney-General for a legal opinion.

As stated in yesterday's Bulletin, President Mott-Smith of the Board of Health received a formal offer from the Shippers' Wharf Committee of an amount not to exceed \$1000 monthly for the purpose of defraying the cost of a systematic mosquito campaign. The shippers will name a sub-committee to confer with the Board of Health as to the best means of attaining the results sought for.

The Bureau of Education in Manila has established a training school for nurses. Miss Malvina M. McKeever of Roxbury, Mass., who served as a nurse in the Spanish war, and later a matron in the civil hospital at Manila, is to have charge of the new undertaking. The students will be Filipino girls.